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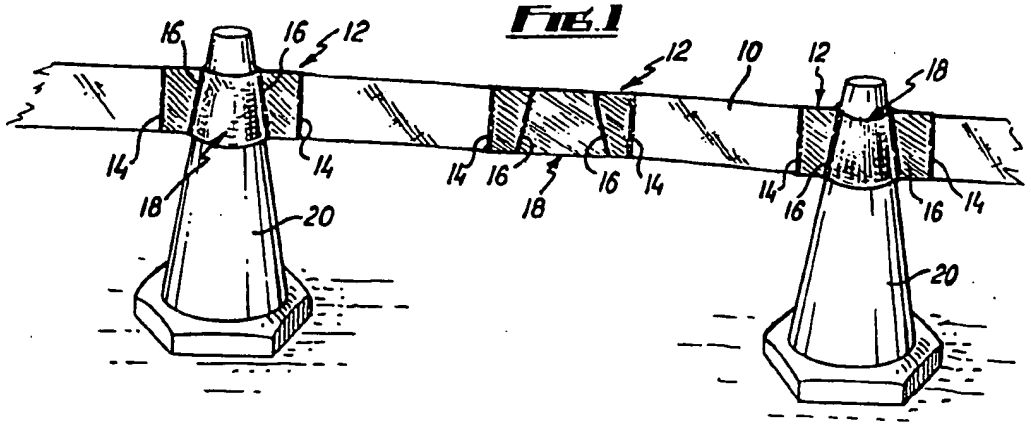
GB 1578453 US 4375134 US 3917231
GB 1524381 US 4105190 US 3688440
GB 1408816

(58) Field of search
E1G
E1D
G5C

(54) Flexible barrier

(57) A barrier for civil engineering works and the like which comprises a flexible strip (10) having pockets (12) or other support means for receiving uprights such as road cones (20).

FIG.1



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The drawings originally filed were informal and the print here reproduced is taken from a later filed formal copy.

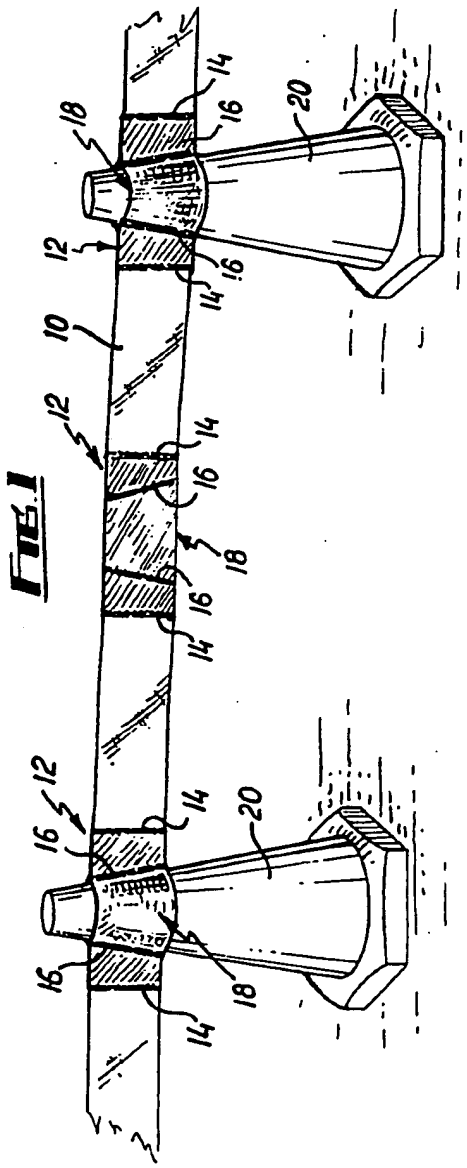

FIG. 1

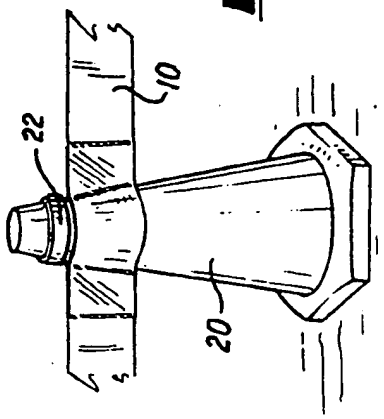

FIG. 2

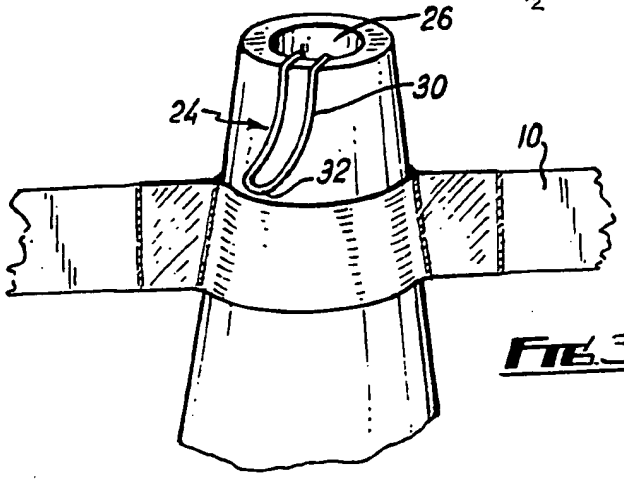

FIG.3

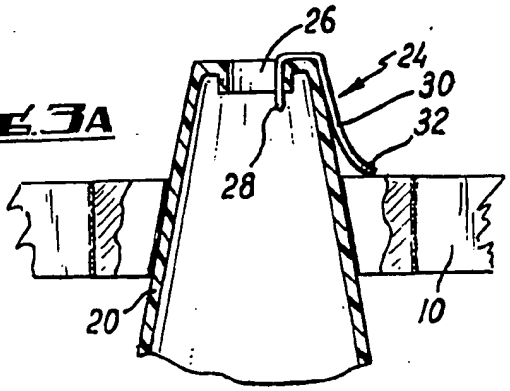

FIG.3A

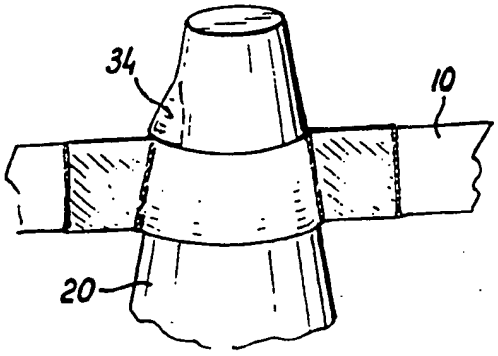

FIG.4

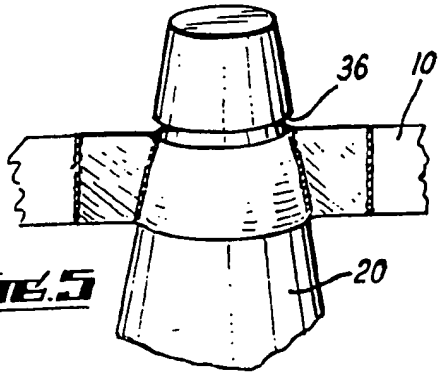

FIG.5

SPECIFICATION

Flexible barrier

This invention relates to barriers for civil engineering works and the like.

In order to give the public a visual warning of civil engineering works such as road repairs, excavations and the like, it is the practice to surround the area with some kind of marker. The present practice is often to string planks or the like between suitably spaced uprights which may be plastic road cones or bollards. One of the main disadvantages of these known systems is that the planks are of fixed lengths whereas the works around which they are to be arranged are of infinitely variable size and dimensions. Moreover, rigid planks present an unyielding surface to wind so that is is a common sight to fine barrier systems which have been blown over.

According to the present invention there is provided a barrier for engineering works and the like comprising a strip of flexible material, there being securing means on said strip adapted to attach said strip to an upright whereby the strip can be arranged substantially horizontally by fitting at least two of said securing means onto uprights.

A specific embodiment of the invention will now be described by way of example with reference to the accompanying drawing in which:—

Figure 1 shows part of a barrier system using the invention in elevation;

Figures 2 to 5 illustrate various modifications of the invention in side elevation, Fig. 3A being a cross section of the embodiment of Fig. 3.

Referring to the drawing the barrier system comprises a strip 10 of flexible material for example of polyvinyl chloride, plasticised polyvinyl chloride, textile material, which may be woven, knitted, or non-woven, coated paper, metal or metalised film, which may be of plastic, textile, paper or other material. At intervals along the strip pockets 12 are provided. The pockets may conveniently be formed by fixing, as by welding, short strips of plastics at opposite ends 14 thereof to the strip 10. In the embodiment illustrated in the drawings the short strips 12 are further welded to strip 10 along mutually inclined lines 16 so as to form a tapered pocket 18.

The tapered pockets can receive the upper end of a road cone 20 as can be seen in the drawing. By locating the cones at appropriate intervals along the strip a barrier can be formed which can be adapted to surround works of almost any shape. If the strip is too long the surplus can be tied up and unlike a rigid plank it will not project awkwardly from the barrier arrangement.

It is advantageous if the short strips which form the pocket are a different colour to the strip 10 for example, the pockets can be red and the strip 10 white to produce alternate red and white sections along the barrier.

The flexible barrier of the invention can yield to wind pressure and can also twist to "spill" the wind so that the system is less likely to be blown over than in the case with systems employing a rigid plank.

The length of the strip is not critical. It is, however, convenient for the strip to be provided in long lengths, preferably rolled up, so that one strip can be used to extend round a site. For small sites the appropriate length of strip can be severed from the roll or the unused section of strip tied up.

The invention is not confined to the embodiment described with reference to Fig. 1 of the drawing and many modifications can be made. For example, the barrier can be fixed to uprights by other means than pockets such as flexible loops of a suitable material provided at intervals along the strip 10.

To prevent the strip from riding up the supports it can be held in place in a number of ways. Normally the friction between the pockets and the surface of the cones received in the pockets will be adequate to keep the strip in place. However, as shown in Fig. 2 to ensure that the strip does not ride up the cones a ring 22 of resilient material can be fitted onto the cone above the strip.

As shown in Figs. 3 and 3A a clip 24 may be fitted on the top of the cone to hold the strip in place. The clip is preferably of resiliently deformable material and is, as illustrated, advantageously constructed for use with a cone having an open top 26 which will receive one arm 28 of the clip 24 so that the other arm 30 will bear against the outer wall of the cone. The free end 32 of the arm 30 is out-turned to aid engagement of the clip on the top of the strip.

In the embodiment of Fig. 4 a protrusion 34 is provided in the side wall. The protrusion is dimensioned so that, with manipulation, a pocket on the strip can be forced over the protrusion but under normal circumstances the protrusion will keep the strip in place. A similar arrangement is shown in Fig. 5 in which the protrusion is replaced by a continuous undercut or step 36 around the cone above the top of the strip.

The embodiments described have illustrated tapered pockets suitable for fitting on cones. The invention may be used with other kinds of support, for example cylindrical posts in which case the pockets may be correspondigly shaped. In such an arrangement the pockets may be closed at one end to engage on the top of the posts.

The colouring and the fluorescent and reflective properties of the flexible strip can be chosen as desired, Thus the strip can be of different colours or of a uniform colour. It can be fluorescent or non-fluorescent and/or can

be reflective or not. Reflective properties can be obtained by employing a material which is intrinsically reflective or by coating a non-reflective substrate with reflective material such as glass microspheres, metal or other reflective material.

The strip may, if desired, be provided with reinforcement. For example, transverse strengthening which may be in the form of ribs can be included so as to help prevent the strip from folding on itself in regions between the upright support. Longitudinal reinforcement can also be provided, for example in the form of a rib or ribs. Preferably the longitudinal reinforcement is discontinuous and does not extend across the pockets or other means by which the strip is supported on uprights.

CLAIMS

1. A barrier for engineering works and the like comprising a strip of flexible material, there being securing means on said strip adapted to attach said strip to an upright whereby the strip can be arranged substantially horizontally by fitting at least two of said securing means onto uprights.

2. A barrier as claimed in Claim 1, wherein the securing means comprises pockets.

3. A barrier as claimed in Claim 2, wherein the pockets are tapered.

4. A barrier as claimed in Claim 2 or Claim 3, wherein the pockets are of substantially uniform width.

5. A barrier as claimed in any of Claims 2 to 4, wherein the pocket is closed at one end.

6. A barrier as claimed in any preceding claim, wherein at least a part of the strip is coloured.

7. A barrier as claimed in any preceding claim, wherein at least a part of strip is reflective.

8. A barrier as claime in any preceding claim, wherein at least a part of the strip is fluorescent.

9. A barrier as claimed in any preceding claim, wherein the strip is reinforced transversely.

10. A barrier as claimed in any preceding claim, wherein the strip is reinforced longitudinally.

11. A barrier as claimed in any preceding claim, wherein means are provided on an upright for retaining the strip on said upright.

12. A barrier substantially as described herein with reference to Fig. 1 or Fig. 1 as modified by any of Figs. 2 to 5.

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